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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/695,802	10/30/2003	Koyata Takahashi	Q78274	6874

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EXAMINER

WATKINS III, WILLIAM P

ART UNIT	PAPER NUMBER
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1772

DATE MAILED: 10/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/695,802

Applicant(s)

TAKAHASHI ET AL.

Examiner

William P. Watkins III

Art Unit

1772

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10/5/2005 (see detailed action).
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-5,7-13 and 18-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-5,7-13 and 18-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 09 June 2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: See Continuation Sheet.

Continuation of Attachment(s) 6). Other: PTO Translation 05-2244 of JP-A 4-268065.

Art Unit: 1772

DETAILED ACTION

1. This office action is responsive to the declaration filed 29 September 2005, the statement of the substance of the interview filed 19 August 2005 and the amendments filed 5 October 2005, 1 August 2005 and 11 July 2005.

2. Applicant's election without traverse of Group I, claims 1-5, 7-13 and 18-20 in the reply filed on 11 July 2005 is acknowledged.

3. The examiner neglected to initial the last two references listed on the PTO Form 1449 of the IDS filed 09 June 2004, which was mailed with the office action of 10 February 2005. A corrected copy is enclosed with the present office action.

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the

Art Unit: 1772

invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this

Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The examiner notes applicant's statement of common ownership regarding U.S. 2004/0018361 A1. The rejection using this reference in section 8 of the office action mailed 01 February 2005 has been changed below from being based on 102(e)/103 to being only an anticipation of the instant claims as the examiner is of the opinion that the examples of the '361 reference inherently have the instant numerical range values, as glass particles with a size similar to the examples of the instant specification are used in the examples of the '361 reference. The examiner notes that a statement of common

Art Unit: 1772

ownership only applies to rejections under 103, which use art that qualifies as prior art under 102(e). This rejection may be overcome by the filing of a certified copy and translation of the instant priority document in order to perfect applicant's claim for priority under 35 U.S.C. 119.

7. Claims 1, 3-5, 7-13, 18-20, 22, 24-25 are rejected under 35 U.S.C. 102(e) as anticipated over Takahashi et al. (U.S. 2004/0018361 A1).

The reference discloses a thermal sprayed quartz film on a quartz substrate used in a CVD or PVD device, with surface features of 5 to 100 microns in dimension (abstract, claim 1). It is unclear how it differs if at all from the thermal sprayed quartz film of the instant invention (see the above section).

8. The rejection under 102/103 given in section 9 of the detailed portion of the office action mailed 01 February 2005 has been withdrawn against the claims which recite use of glass island projections and extended below to newly presented claims which do not recite use of glass island projections.

9. Claims 10, 22 and 24 are rejected under 35 U.S.C. 102(a and e) as anticipated by or, in the alternative, under 35

Art Unit: 1772

U.S.C. 103(a) as obvious over Takahashi et al. (U.S. 2003/0091835 A1).

The reference teaches thermal spraying of various ceramics onto a glass substrate used in a PVD or CVD machine (abstract, claim 1). It is unclear how it differs if at all from the thermal sprayed film of the instant invention. As the PTO does not have facilities to conduct comparison experiments, burden is shifted to applicant. This is a 102/103 type of rejection. MPEP 2112 and 2113. It is noted that applicant has not perfected priority nor supplied a translation of the priority document.

10. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Art Unit: 1772

11. The obviousness type double patenting rejection given in section 11 of the first office action mailed 01 February has been extended below to newly presented claims 22 and 24-25 and is maintained against the previously cited claims. Applicant argues that the instant claims are limited to island projections at least some of which do not overlap and expose a portion of the substrate. The examiner finds this language only in claims 21 and 23.

12. Claims 1, 3-5, 7-13, and 18-20, 22, 24-25 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-13 of copending Application No. 10/405,226. Although the conflicting claims are not identical, they are not patentably distinct from each other because it is unclear how the claimed thermal sprayed coating differs between the instant claims and the claims of the '226 application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

13. The provisional obviousness type double patenting rejection given in section 12 of the first office action mailed 01 February has been extended below to newly presented claims 22 and 24 and the issued patent U.S. 6,902,814 B2 has been substituted for the application as the rejection is no longer provisional. Applicant argues that instant Figure 11 is different than the coating disclosed in the '814 patent. This is not understood as instant Figure 11 is directed to a discs that do not form the instant claimed projections.

14. Claims 10, 22 and 24 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-9 of U.S. Patent 6,902,814 B2. Although the conflicting claims are not identical, they are not patentably distinct from each other because it is unclear how the ceramic thermal spray of the instant claims differs from that of the '402 application.

15. Claims 1, 3-5, 7-13 and 18-25 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-7, 10-15 of copending Application No. 10/964,893. Although the conflicting

Art Unit: 1772

claims are not identical, they are not patentably distinct from each other because the instant claims are broader than the more specific claims of the '893 application and thus obvious over them. The porosity of the '893 claims would have appeared to be inherent in the embodiments of the instant specification that support the instant claims to one of ordinary skill in the art and thus the claims of the '893 application would have been obvious to one of ordinary skill in the art over the instant claims.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

16. Claims 1, 3-5, 7-9, 11-13 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hellmann et al. (U.S. 6,150,006 in view of Takashi et al. (JP-A 04-268065)).

Hellmann et al. teaches a quartz layer with a surface roughened with structural elements in the 30 to 180 micron size range in a component used in a CVD device to have good adhesion and a long service life (abstract). Takashi et al. teach the formation of a coating on a part with good adhesion to deposited films with the coating formed by thermal spraying (English

Art Unit: 1772

abstract). The instant invention claims a thermal sprayed coating element dimensions of 5 to 300 microns. It would have been obvious to one of ordinary skill in the art to have formed the surface features of Hellmann et al. by coating a quartz substrate with a quartz thermal spray in order to have an alternate to etching because of the teachings of Takashi et al. A thermal sprayed coating that has the dimensions of Hellmann et al. is taken as meeting the instant claim language of roundish projections. As the final application conditions are similar between the instant specification and the references it would have been obvious to one of ordinary skill in the art have arrived at the claimed density of projections through a process of optimization of the thermal coating of the combination of the references.

17. Applicant's arguments filed 29 September 2005 and 11 July 2005 have been fully considered but they are not persuasive.

Applicant argues in the declaration and the response that the surface of Hellmann et al. has sharp edges. That examiner accepts that the product of Hellmann et al. does have sharp edges. Therefore the rejection using Hellmann et al. above is maintained against the claims that depend from claim 1, as these

claims do not recite a lack of sharp edges. The examiner also accepts applicant arguments that Takashi et al. does not teach island portions that expose the substrate. Therefore the rejection has not been extended to claim 21.

18. Claims 1, 3-5, 7-13 and 18-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ogawa et al. (U.S. 5,324,566).

Ogawa et al. teaches a substrate, which may be glass, that is coated with glass particles that produce various rounded surfaces that have diameters in the micron range (abstract, col. 11, lines 30-40, col. 13, lines 30-35, col. 16, lines 55-65, Figures 34, 35, 36, 28-31). The surfaces are shown as rounded in the Figures. The instant invention claims rounded glass particles on a substrate forming island projections with a loading of 20 to 5,000 mm square. It would have been obvious to one of ordinary skill in the art to have used a particle loading in the instant claimed range as Ogawa et al. show separated particles in the micron range. The examiner takes micron sized particles separated on a substrate as producing the instant claimed particle range. Regarding claims 7-9 and 18-20 it is unclear what additional structure is added to the body of the

claims by the preamble language of "film-forming device, plasma-etching device and plasma-cleaning device".

19. Claims 1, 3-5, 7-13 and 18-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lin et al. (U.S. 6,777,045 B2 in view of Kyoichi et al. (JP-A 11-106,225)).

Lin et al. teaches a surface of a wall of a chamber of a plasma device that is plasma sprayed with micron size particles on a roughened surface to form a surface that has good adherence to films deposited when the chamber is in use (abstract). The particles may be initially formed in the form of projections (Figure 3B). Kyoichi et al. teaches the formation of a glass surface with spherical and oval glass projections that have a excellent adhesion to deposited CVD films. It would have been obvious to one of ordinary skill in the art to deposit glass particles in the shape of rounded projections on the chamber surface of Lin et al. in order to form rounded projections with good adhesion because of the teachings of Kyoichi et al.

20. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Art Unit: 1772

The references show various rough surfaces for process chambers.

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to William P. Watkins III whose telephone number is 571-272-1503. The examiner works an increased flex time schedule, but can normally be reached Monday through Friday, 11:30 A.M. through 8:00 P.M. Eastern Time. The examiner returns all calls within one business day unless an extended absence is noted on his voice mail greeting.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



WW/ww
October 14, 2005

**WILLIAM P. WATKINS III
PRIMARY EXAMINER**